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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 02/19/2010

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER	
FRENEL, VANEL	
ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 02/19/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,197	12/03/2003	R. Bharat Rao	2002P19745US01	4681

TITLE OF INVENTION: SYSTEMS AND METHODS FOR AUTOMATED EXTRACTION AND PROCESSING OF BILLING INFORMATION IN PATIENT RECORDS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	05/19/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Intellectual Property Department
170 Wood Avenue South
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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	$1510	$300	$0	$1810	05/19/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
FRENEL, VANEL	3687	705-003000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1_____

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2_____ 3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 688 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 688 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Notice of Allowability	Application No.	Applicant(s)	
	10/727,197	RAO ET AL.	
	Examiner	Art Unit	
	VANEL FRENEL	3687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/0510 Amendment*.

2. ☒ The allowed claim(s) is/are *1-24 and 39-45*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 20100122, 20080829, 20080228
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Joshua Ryan on 2/05/10.

Please amend the claims as follows:

1. (Previously Presented) A method for processing medical information, comprising the steps of:

obtaining a medical record of a patient, wherein the medical record comprises patient information from structured and unstructured data sources;

analyzing with a computer the patient information from at least the unstructured data source in the medical record using domain-specific criteria; and

automatically extracting billing information from the medical record as part of the analysis.

2. (Original) The method of claim 1, wherein extracting billing information comprises extracting one or more billing codes.

3. (Original) The method of claim 2, wherein the billing codes comprise a diagnosis code, a procedure code or both.

4. (Original) The method of claim 1, wherein the patient information comprises clinical information and financial information of the patient.

5. (Original) The method of claim 1, wherein extracting billing information comprises extracting all billing codes that are supported by the patient information based on all domain-specific criteria in a domain knowledge base.

6. (Original) The method of claim 1, wherein the domain-specific criteria comprises institution-specific domain knowledge.

7. (Original) The method of claim 6, wherein the institution-specific domain knowledge relates to one or more of data at a hospital, document structures at a hospital, policies of a hospital, guidelines of a hospital, and variations at a hospital.

8. (Original) The method of claim 1, wherein the domain-specific criteria includes condition-specific or disease-specific domain knowledge.

9. (Original) The method of claim 8, wherein the condition-specific or disease-specific domain knowledge includes one or more of factors that influence risk of a condition or disease, disease progression information, complications information, outcomes and variables related to a condition or disease, measurements related to a condition or disease, and policies and guidelines established by medical bodies.

10. (Original) The method of claim 1, further comprising generating an explanation that includes one or more pointers to relevant patient information, relevant domain-specific criteria, or relevant patient information and domain-specific criteria, which supports the extracted billing information.

11. (Original) The method of claim 10, further comprising presenting the explanation to a user for verifying the billing information.

12. (Original) The method of claim 1, further comprising automatically generating a medical claim for the patient using the extracted billing information.

13. (Original) The method of claim1, further comprising:

presenting the extracted billing information to the user for verification; and

automatically generating a medical claim for the patient using the extracted billing information, if the extracted billing information is verified by the user.

14. (Original) The method of claim 13, further comprising:

modifying the extracted billing information in response to user input, if the billing information is not verified by the user; and

automatically generating a medical claim for the patient using the modified extracted billing information.

15. (Original) The method of claim 1, further comprising automatically updating the medical record of the patient using the extracted billing information.

16. (Original) The method of claim 15, wherein automatically updating the medical record comprises using the extracted billing information to (i) correct billing information in the medical record, which is determined to be incorrectly recorded in the medical record or (ii) insert billing information into the medical record, which is determined to be missing from the medical record.

17. (Original) The method of claim 15, further comprising presenting an updated medical record to a user for verification, wherein automatically updating the medical record of the patient is performed in the updated medical record is verified by the user.

18. (Original) The method of claim 1, further comprising:

(a) automatically assessing the quality of the patient information of the medical record using the extracted billing information to obtain quality assessment results; and

(b) storing the quality assessment results for the medical record.

19. (Original) The method of claim 18, further comprising performing steps (a) and (b) for a plurality of medical records in an electronic database; and

automatically generating quality assurance statistics based on the quality assessment results obtained for the plurality of medical records.

20. (Original) The method of claim 18, wherein the quality assessment results comprise information regarding occurrences of correct, incorrect and/or missing billing codes in the medical record.

21. (Original) The method of claim 1, further comprising automatically determining an expected amount of medical billing reimbursement based on the extracted billing information.

22. (Original) The method of claim 21, further comprising:

maintaining the expected amount in the medical record; and

reconciling the expected amount with an actual reimbursement received.

23. (Original) The method of claim 21, wherein determining an expected amount of medical billing reimbursement further depends on whether or not clinical guidelines have been followed as specified by domain-specific criteria.

24. (Original) The method of claim 10, wherein the explanation further comprises information as to whether or not clinical guidelines have been followed as specified by domain-specific criteria.

25. – 38. (Canceled.)

39. (Previously Presented) In a program storage device readable by a machine, tangibly embodying a program of instructions executable on the machine to perform steps for processing medical information, the program storage device comprising instructions for:

obtaining a medical record of a patient, wherein the medical record comprises patient information from structured and unstructured data sources;

analyzing the patient information from at least the unstructured data source in the medical record using domain-specific criteria; and

automatically extracting billing information from the medical record as part of the analysis.

40. (Original) The program storage device of claim 39, wherein the instructions for extracting billing information comprise instructions for extracting one or more billing codes.

41. (Original) The program storage device of claim 39, wherein the patient information comprises clinical information and financial information of the patient.

42. (Original) The program storage device of claim 39, wherein the instructions for extracting billing information comprise instructions for extracting all billing codes that are supported by the patient information based on all domain-specific criteria in a domain knowledge base.

43. (Previously Presented) The method of Claim 1 wherein automatically extracting comprises inferring a diagnosis and the associated billing information from the medical record.

44. (Previously Presented) The method of Claim 43 wherein inferring comprises inferring the diagnosis and the associated billing information from the medical record without reference to diagnosis codes.

45. (Previously Presented) The method of Claim 43 wherein inferring comprises determining a probability.

46. - 51. (Canceled.)

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/10 has been entered.

Notice to Applicant

3. This communication is in response to the RCE filed on 1/22/10. Claims 1-24 and 39-45 are pending.

Allowable Subject Matter

4. Claims 1-24 and 39-45 are allowed. The following is an examiner's statement of reasons for allowance and in light of Applicant's argument submitted on 1/22/10.

The drawings filed on 12/03/03 have been acknowledged and considered by the Examiner.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VANEL FRENEL whose telephone number is (571)272-6769. The examiner can normally be reached on 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Gart can be reached on 571-272-3955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vanel Frenel/

Examiner, Art Unit 3687

February 16, 2010